

# ORAKEL CONTROL UNIT

SYSTEM

The ORAKEL System is the ultimate water flow and water quality measuring product range. Created as a modular system, a wide range of sensors can be added to measure various water characteristics, for a truly bespoke and cost-effective solution.



## HOW IT WORKS

Capable of measuring a range of water characteristics, the control unit connects up to 2 sensors as standard but is expandable up to 16 sensors.

Optional comms packages allow Profibus, Modbus ASCII, Modbus RTU, Modbus TCP, 4-20mA analogue outputs and relays for alarms and control.

Equipped with a display screen, readings can be taken directly from the control unit or downloaded from the internal data logger. An optional **Detectronic** modem allows for remote communication capabilities.

## APPLICATIONS

The ORAKEL System is suitable for use in closed, partially filled and open channels.

The wide variety of sensors that can be added make it suitable for many applications, including: municipal and industrial wastewater; chemical process; food and dairy; paper and pulp; pharmaceutical; brewing and other process industries.

The ORAKEL System has sensors available to monitor the following.

- |                    |                    |
|--------------------|--------------------|
| ■ Velocity         | ■ Biofilm          |
| ■ Level and Depth  | ■ Residual Ozone   |
| ■ Flow             | ■ ORP              |
| ■ Temperature      | ■ Chlorine         |
| ■ pH               | ■ Turbidity        |
| ■ Dissolved Oxygen | ■ Suspended Solids |
| ■ Conductivity     | ■ Chlorine Dioxide |
| ■ BOD/COD/TOC      | ■ Oil on Water     |



[www.detectronic.org/orakel](http://www.detectronic.org/orakel)

## KEY FEATURES

### PID Control

Full PID control suitable for nearly all dosing requirements, from simple to very complex processes.

### Diagnostics

Includes a full set of instrument and measurement diagnostics.

### Precision Positioning

An integrated signal oscilloscope optimises sensor positioning and diagnostics.

### Easy Configuration

Includes a comprehensive internal database of pipe, fluid and lining materials.

### Built-in Parameters

Built-in fluid parameters allow calculation to compensate for sound speed, density, viscosity, specific heat capacity and temperature (if temperature is known from optional temperature probe).

### Flexible Measurement

Liquid can be measured in M, m<sup>3</sup>, USgal, mg, cf, bbl and Imp bbl. All measured values can be selected as flow rate per second, minute, hour or day and are automatically totalised.

### Data Analysis

An optional GSM data-logger can be added and data sent to an online portal for detailed analysis.

## TECHNICAL SPECIFICATION

### Inputs

2 configurable sensor inputs; 4-20mA loop-powered, 0-2 VDC, +/- 1200 mV for pH, ORP, or ISEs, PT100, pulse and Modbus. Unused inputs can be used as Outputs. Up to 8 digital inputs.

### Dimensions

230 x 309 x 103mm.

### Alarms

2 user configurable alarms with deadband and delay for each parameter and control output.

### Thresholds

2 user configurable thresholds (for control) with deadband and delay for each measurement and control output.

### PID

Configurable flow proportional PID - multiple loops.

### Communication (Optional)

Modbus ASCII/RTU (RS485).

Profibus DP.

Modbus TCP (Ethernet) 2G/3G modem.

### Data Logging

Internal - single parameter data log or status message log over 1 million records (downloadable data logs optional).

### Outputs

2 configurable analogue outputs; 0-20mA, 4-20mA, 0-1 VDC, 0-10 VDC, 1-10 VDC.

Up to 8 SPST electromechanical relays rated 380 VAC, 6A maximum (relays are rated 6A for resistive loads and 2A for inductive loads).

### Languages

Any non-pictogram by request.

Any Latin, Cyrillic, Hellenic.

### Memory Backup

All user configuration is stored in non-volatile on-board flash memory.

### Enclosure

ABS flame retardant IP65N, Nema 4X.

### Display

4.3", 480 x 272, 8 bit, greyscale  
(4.3", 480 x 272, full colour optional).

### Weight

2kg.

### Warranty

12 months from date of purchase.

To learn more about the **Detectronic ORAKEL System** and how it can help your business, get in touch:

Call: **+44 (0)1282 449 124**

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Visit: **www.detectronic.org**

